

Micro- and nanostructure analysis of PEM fuel cell components

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Proton exchange membrane (PEM) fuel cells can already fulfil the performance requirements for use in automotive applications, while cost and durability are still very relevant issues. In this context, structure analysis can play an important role in understanding degradation mechanisms and in improving component design.

Micro- and nanostructure analysis of PEM fuel cell electrodes as well as selected analysis techniques - e.g. transmission electron microscopy (TEM) and x-ray computed tomography (CT) - will be discussed. The presentation will focus on the analysis of the catalyst nanoparticles by TEM and other techniques as well as the 3D visualization of gas diffusion layers by CT.